

10/532445

AMENDED CLAIMS

[(received by the International Bureau on 24 March 2004 (24.03.04);
original claims 1-13 replaced by new claims 1-10 (2 pages)]

1. An electromagnetic switch comprising a guiding medium and switch means for controlling propagation within the guiding medium, characterised in that the guiding medium comprises a substantially parallel plate structure, and the switch means comprises an array of electromechanical switch elements positioned to allow selective reflection and absorption of an electromagnetic signal in controlled directions.
2. An electromagnetic switch according to claim 1 in which the guiding medium is a planar guiding medium.
3. An electromagnetic switch according to claim 1 or claim 2 in which the guiding medium is a waveguide.
4. An electromagnetic switch according to claim 1 or claim 2 in which the guiding medium is made of a semi-conductor material.
5. An electromagnetic switch according to any one of the preceding claims in which the electromechanical switch elements are activated by displacement of elements of desired conductivity, with the displacement being electrostatic displacement, electric field displacement, magnetic field displacement, or thermal displacement.

JC20 Rec'd PCT/PTO 22 APR 2005

6. An electromagnetic switch according to any one of the preceding claims in which the elements are in the form of polymers, powders or liquid suspensions.
7. An electromagnetic switch according to any one of the preceding claims in which the parallel plate structure is a microwave parallel plate structure; and including at least one element of controllable reflectivity that may be used to affect the spatial distribution of the electromagnetic energy by absorption of energy.
8. An electromagnetic switch according to any one of the preceding claims in which the electromechanical switch elements are controllable through associated logic devices.
9. A miniaturised active electromagnetic antenna including at least one electromagnetic switch according to any one of the preceding claims.
10. An active electromagnetic delay line including at least one electromagnetic switch according to any one of claims 1 – 8.